



SAFETY DATA SHEETS

1. CHEMICAL PRODUCT

Adhesive Systems, Inc.
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Product Name: **MP55220/MP55320/MP55420 Part A**
(Resin) Technical Name: **Methyl Methacrylate**
Adhesive Intended Use of Product: **Adhesive for bonding**

2. HAZARDS IDENTIFICATION

HEALTH:

Acute Toxicity: Category 4
Skin Irritation: Category 3
Eye Irritation: Category 2B
Sensitization: Yes

ENVIRONMENTAL:

Acute Toxicity: Category 3
Chronic Toxicity: Category 4

PHYSICAL:

Flammable Liquid: Category 4

HAZARD STATEMENTS:

Highly flammable liquid and vapor
May cause skin and eye irritation

PRECAUTIONARY STATEMENTS:

Do not breathe vapor
Keep container closed
Use in well ventilated area

See Section 16 for additional information.



Symbol:

Signal Word: Danger

3. COMPOSITION AND INFORMATION ON INGREDIENTS

| | <u>CAS #:</u> | <u>% by Weight</u> |
|---|---------------|--------------------|
| Methyl Methacrylate Monomer (Stabilized)~ | 80-62-6 | 40-85* |
| Methacrylic Acid | 79-41-4 | 1-8* |

*Proprietary means the specific chemical identity and/or weight percent is being withheld as a trade secret.

~This chemical is subject to reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986, 40CFR372.

All of the ingredients in this product are listed or exempt from listing on the TSCA chemical list.

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MP55220/MP55320/MP55420 Part A (Resin)

Methyl Methacrylate

4. FIRST AID MEASURES

INGESTION: Rinse mouth with water. Give 1 to 2 glasses of water or milk. Get immediate medical attention, **DO NOT INDUCE VOMITING.**

INHALATION: Remove to fresh air. If breathing stopped give artificial respiration. If breathing is difficult give oxygen. Get medical advice.

SKIN CONTACT: Soak in warm soapy water. Discard contaminated clothing. Do not use organic solvents. If irritation occurs, get medical attention.

EYE CONTACT: Immediately flush eyes with water for at least 15 minutes, seek medical attention.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use dry chemical powder. Carbon dioxide gas, foam, Halon, water fog. **Unsuitable Extinguishing Media:** Water spray or stream.

Exposure Hazard(s): Inhalation and dermal contact.

Combustion Products: Oxides of carbon and nitrogen, hydrocarbons, acidic gases.

Special Fire Fighting Procedures: Wear self contained breathing apparatus and full turnout gear. **Unusual Fire / Explosion Hazards:**

LEL (Lower Explosion Limit): 1.6

UEL (Upper Explosion Limit): 12.5

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Keep away from heat, spark, and open flame. Prevent contact with skin and/or eyes.

Provide ventilation, use explosion proof exhaust ventilation equipment and tools.

Environmental Precautions:

Prevent product or liquid(s) contaminated with product from entering sewers, drains, soil, or waterways.

Method(s) for Clean Up:

Inert absorbent material or sand. Use non sparking tools. Place material in a sealable metal or plastic container.

7. HANDLING AND STORAGE

This material is flammable.

Keep away from ALL ignition sources.

In ALL cases use only electrically grounded handling equipment.

In ALL cases metal pails and drums need to be grounded.

When using large volumes ensure that operational area is well ventilated.

Maintain exposure levels below the threshold limits.

If exposure limits exceed the established threshold limit values ensure that adequate ventilation

is provided and maintain below the established limits.

Store between 5-25°C; avoid strong light and heat sources.

These products should never be frozen. Avoid skin contact, eye contact, and inhalation of vapor.

Keep container(s) tightly closed when not in use.

Do not eat, drink, or smoke while handling.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

EXPOSURE LIMIT(S):

| | ACGIH | ACGIH STEL | OSHA PEL | OSHA STEL |
|---------------------|---------------|------------|---------------|-----------|
| Methyl Methacrylate | 50 ppm | 100 ppm | 100 ppm | N/E |
| Methacrylic Acid | 20 ppm (skin) | N/E | 20 ppm (skin) | N/E |

Engineering Controls: Use good general local ventilation when working with this material. **Monitoring:** Maintain area where in use below exposure limits.

PERSONAL PROTECTION EQUIPMENT:

Eye Protection: Avoid contact with eyes. Safety goggles / glasses suitable for use with chemicals.

Skin Protection: Avoid contact with eyes. Use butyl rubber gloves. Solvent resistant gloves and/or barrier cream should provide adequate protection for normal use.

Respiratory Protection: Use with adequate ventilation. If adequate ventilation is not available always use appropriate organic vapor mask.

SAFETY DATA SHEETS

MP55220/MP55320/MP55420 Part A (Resin)

Methyl Methacrylate

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off White

Odor: Strong, methacrylate smell pH: Not applicable

Boiling Point: 100.5⁰C (212.9⁰F) Note: this is based on the first boiling component, MMA, Flash Point: 11.5⁰C (52.7⁰F) TCC, Note: this is based on MMA.

Specific Gravity: 0.94 @ 25⁰C (77⁰F)

Solubility: Slight in water

Evaporation Rate: Not Determined

Auto Ignition Temperature: 421⁰C (798⁰F) Decomposition Temperature: Not applicable

Odor Threshold: 0.75

Evaporation: > 1

Flammability: Category 2

Explosive Limits: Lower LEL 1.6% Upper UEL 12.5%

Vapor Pressure: 28 mm HG @ 20⁰C (68⁰F) Vapor Density: > 3.0 (Air = 1)

VOC Content: <20 grams mixed g/L

10. REACTIVITY AND STABILITY

Chemical Stability: Stable, unless heated

Hazardous Decomposition Products: None in normal use. Oxides of carbon, oxides of nitrogen, hydrocarbons, acidic gases.

Incompatibility: Oxidizers, acids, bases, amines.

Conditions to Avoid: Keep away from direct sunlight, heat, sparks, flame, and any ignition source.

11. TOXICOLOGICAL INFORMATION

LIKELY ROUTES OF EXPOSURE: Inhalation, eye, and skin contact Acute symptoms and effects:

INHALATION: Severe overexposure may cause nausea, dizziness, and/or headache. Irritation to eyes and nose are possible.

EYE CONTACT: Overexposure may result in severe eye injury with corneal or conjunctive inflammation if the eye comes in contact with the liquid.

SKIN CONTACT: May remove the oils from the skin and create irritation. Dermatitis may occur.

INGESTION: May cause nausea, vomiting, diarrhea. Chronic (long term) effects:

None known to humans.

Toxicity:

LD50

LC50

METHYL METHACRYLATE MONOMER:

Oral 7900 mg/kg (rat)

Inhalation: 3 hrs 7093 ppm (rat)

Dermal 35000 mg/kg (rabbit)

METHACRYLIC ACID:

Oral 1600 mg/kg (rat)

Inhalation: 6.7 mg/l (rat) Dermal 500 mg/kg (rabbit)

Reproductive Effects: Not Established

Teratogenicity: Not Established

Mutagenicity: Not Established

Embryotoxicity: Not Established

Sensitization to Product: Not Established

Synergistic Products: Not Established

12. ECOLOGICAL INFORMATION

Ecotoxicity: None known Mobility: In air

<50g/L Degradability: Not established

Bioaccumulation: Not established

SAFETY DATA SHEETS

MP55220/MP55320/MP55420 Part A (Resin)

Methyl Methacrylate

13. DISPOSAL INFORMATION

This material must be disposed in compliance with local, state, and federal regulations. Consult a local licensed expert.

14. TRANSPORTATION INFORMATION

U.S.DOT

Materials shipped in Quantities of more than 1 Liter in combination or single packaging.

UN 1133 Adhesives 3 II

Marine Pollutant: NO

Limited quantities, No shipping paper required. Limited quantity mark is required on the outer surface of the finished package.

ICAO/IATA

Materials shipped in Quantities of more than 1 Liter in combination or single packaging.

UN 1133 Adhesives 3 II

Materials shipped in Limited Quantities

ID 8000 Consumer Commodity 9 (Limited Quantity Marking with Y required on outer surface of the package and Class 9 label also required on the outer surface of the package)

IMDG

UN 1133 Adhesives 3 II

Limited and excepted quantity provisions: Limited Quantity up to 5 liters per single package. (IMDG code amendment 37-14, Volume 2, pg.48)
UN1133 Adhesives 3 II Ltd. Qty (FP in degrees C c.c. required on shipping paper) Limited marking only required on outer surface of package.

15. REGULATORY INFORMATION

TSCA

All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

SARA

Title III, Section 13

This product does contain the following chemical(s) which are defined as toxic chemicals under and subject to the reporting requirements of, Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40CFR Part 372.

Methyl Methacrylate CAS # 80-62-6

WHMIS CLASSIFICATION: Class B, Division 2, Controlled Product Class D, Division 2B

16. OTHER INFORMATION

Initial: 8/22/2007

Revised: Jan. 2016

| | | | |
|------|----------|----------------|--------------|
| HMIS | HEALTH 2 | FLAMMABILITY 3 | REACTIVITY 2 |
| NFPA | HEALTH 2 | FLAMMABILITY 3 | REACTIVITY 2 |

PRECAUTIONARY LABEL INFORMATION: HIGHLY FLAMMABLE, HARMFUL (SEE SECTION 2) Risk Phrases:

| | |
|-----------|--|
| R11 | HIGHLY FLAMMABLE |
| R20 | HARMFUL BY INHALATION |
| R21 | HARMFUL IF CONTACT BY SKIN |
| R22 | HARMFUL IF SWALLOWED |
| R43 | MAY CAUSE SENSITIZATION BY SKIN CONTACT |
| R36/37/38 | IRRITATING TO EYES, RESPIRATORY SYSTEM, AND SKIN |

SAFETY DATA SHEETS

MP55220/MP55320/MP55420 Part A (Resin)

Methyl Methacrylate

Safety Phrases::

S2 -KEEP OUT OF REACH OF CHILDREN
S7 -KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE
S9 -KEEP CONTAINER IN A WELL VENTILATED AREA
S15/16 -KEEP AWAY FROM HEAT AND SOURCES OF IGNITION. NO SMOKING
S23 -DO NOT BREAHTE VAPOR
S24/25 - AVOID CONTACT WITH SKIN AND EYES
S29 -DO NOT EMPTY INTO DRAINS.
S37/39 - WEAR SUITABLE GLOVES AND EYE PROTECTION
S51 -USE ONLY IN WELL VENTILATED AREAS

NON-WARRANTY: Information contained herein is based on tests we believe to be reliable and accurate. It is offered in good faith for the benefit of the consumer. Adhesive Systems shall not be liable for any injury, loss, or damage in the use of it's chemical products since the conditions of use are beyond our control. In every case we urge and recommend the user conduct tests to determine to their own satisfaction that the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. Statements concerning the possible use of our products are not intended as recommendations to use our products in the infringement of any patent. Because of changing reporting requirements and other variables it is impossible to guarantee the accuracy of the information contained in this document. It is the responsibility of the user to determine proper personal protection based on the actual condition of use and to comply with all Federal, State, and Local laws and regulations.

Engineering Excellence

For technical information
and support call **1-800-552-0299** or visit our website at

www.instantca.com

Revised
Jan. 2016



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1-815-464-5650 Fax

EMERGENCY PHONE 1-800-255-3924 International +01+813-248-0585

Product Name: **MP55220/MP55320/MP55420 Part B (Activator)**

Technical Name: **Methyl Methacrylate Adhesive**

Intended Use: **Adhesive for bonding**

2. HAZARDS IDENTIFICATION

HEALTH:

Acute Toxicity: Category 5

Skin Irritation: none

Eye Irritation: Category 2B

Skin Sensitization: none

ENVIRONMENTAL:

Acute Toxicity: none

Chronic Toxicity: none

PHYSICAL:

Flammable Liquid: Category 4

HAZARD STATEMENTS:

May cause irritation/allergic skin reaction

PRECAUTIONARY STATEMENTS:

Do not breathe vapor

Keep container closed

Use in well ventilated area



Symbol:

Signal Word: Warning

3. COMPOSITION AND INFORMATION ON HARMFUL INGREDIENTS

| | <u>CAS #:</u> | <u>% by Weight</u> |
|--------------------------------|----------------|--------------------|
| Benzoyl Peroxide (BPO)~ | 94-36-0 | < 15* |

*Proprietary means the specific chemical identity and/or weight percent is being withheld as a trade secret.

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All of the ingredients in this product are listed or exempt from listing on the TSCA chemical list.

SAFETY DATA SHEETS

MP55220/MP55320/MP55420 Part B (Activator) Methyl Methacrylate

4. FIRST AID MEASURES

| | |
|----------------------|---|
| Ingestion: | Get immediate medical attention. Rinse mouth with water. Give 1 to 2 glasses of milk or water. DO NOT INDUCE VOMITING. Inhalation: Remove to fresh air, if symptoms continue, seek medical advice. |
| Skin Contact: | Remove contaminated clothing. Wash skin thoroughly with soap and water. If irritation Soak in warm soapy water. Discard contaminated clothing. Do not use organic solvents. If irritation occurs, get medical attention. |
| Eye Contact: | Immediately flush eyes with water for at least 20 minutes, seek medical attention. |

5. FIRE FIGHTING MEASURES

Flammable Limits: LEL=Not Established
UEL=Not Established
Extinguishing Media: Use dry chemical powder, carbon dioxide gas, foam, halogen, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and skin contact.
Combustion Products: Oxides of carbon, oxides of nitrogen.
Special Fire Fighting Procedures: Wear self contained breathing apparatus and full turnout gear. **Unusual Fire / Explosion Hazards:** None

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Keep away from heat, spark, flame.
Ventilate area of spill, provide sufficient ventilation or wear respiratory protective equipment. Prevent contact with skin and eyes.

Environmental Protection:
Prevent product and contaminated liquids from entering drains, sewers, soil, or waterways.

Method(s) for Clean Up:
Absorb with sand / earth, inert material. Transfer to suitable container and dispose in accordance with local, state, and federal regulations.

7. HANDLING AND STORAGE

Handling: When using large volumes ensure that operational area is well ventilated. Avoid skin contact and inhalation of vapor. Maintain exposure levels below the threshold limits. If exposure limits exceed the established threshold limit values, ensure that adequate ventilation is provided and maintain below the established limits. Keep away from all ignition sources. Keep containers tightly closed when not in use. Do not eat, drink, or smoke while handling.

Storage: Store in a well ventilated area. Keep container(s) tightly close when not in use. Keep away from incompatible materials. Keep away from all ignition sources. Avoid direct sunlight and high temperatures. Store below 25⁰C (77⁰F). Do not freeze. Storage at elevated temperatures will shorten shelf life.

SAFETY DATA SHEETS

MP55220/MP55320/MP55420 Part B (Activator)

Methyl Methacrylate

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

EXPOSURE LIMITS:

| | ACGIH | ACGIH STEL | OSHA PEL | OSHA STEL |
|------------------|---------------------|------------|---------------------|-----------|
| Benzoyl Peroxide | 5 mg/m ³ | N/E | 5 mg/m ³ | N/E |

Engineering Controls: Use local exhaust as needed.

Monitoring: Maintain airborne concentrations below exposure limits.

PERSONAL PROTECTION EQUIPMENT:

Eye Protection: Avoid contact with eyes. Safety goggles / glasses suitable for use with chemicals.

Respiratory Protection: Use with adequate ventilation. Use local exhaust to maintain exposure limits below those listed above. If adequate ventilation is not available always use appropriate organic vapor mask.

Skin Protection: Avoid skin contact. Nitrile or neoprene gloves for frequent immersion in material. For normal use nitrile gloves, latex gloves, and/or barrier cream should provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off white

Odor: Mild

pH: Not applicable

Boiling Point: Not established

Flash Point: 84⁰C (184⁰F)

BPO Specific Gravity: 1.21 @ 23⁰C (73⁰F)

Solubility: Insoluble in water

Evaporation Rate: < 1

Auto Ignition Temperature: Not Established Decomposition

Temperature: 110⁰C (230⁰F)

Odor Threshold: Not established

Flammability: Category 4

Explosive Limits: Lower LEL

Not established

Upper UEL Not established

Vapor Pressure: Not established Vapor

Density: Not established VOC Content:

None

10. REACTIVITY AND STABILITY

Chemical Stability: Stable

Hazardous Polymerization: None in normal use. Incompatibility: Oxidizers, acids, bases, uv radiation, amines.

Conditions to Avoid: Keep away from direct sunlight and all ignition sources. Do not freeze.

Hazardous Decomposition Products: Carbon and nitrogen oxides.

SAFETY DATA SHEETS

MP55220/MP55320/MP55420 Part B (Activator) Methyl Methacrylate

11. TOXICOLOGICAL INFORMATION

LIKELY ROUTES OF EXPOSURE: Inhalation, eye and skin contact.

Acute symptoms and effects:

INHALATION: May cause irritation to nose, throat, and lungs. **EYE CONTACT:** May cause eye irritation.

SKIN CONTACT: Prolonged exposure may cause moderate skin irritation. **INGESTION:** May cause nausea, vomiting, and diarrhea.

Chronic (long term) effects: None known to humans.

| Toxicity: | LD50 | LC50 |
|------------------|------------------------|-------------------------------|
| Benzoyl Peroxide | Oral: 6400 mg.kg (rat) | Oral: 2 mg/l 96 hours (guppy) |

Reproductive Effects: None

Teratogenicity: None

Mutagenicity: None

Embryotoxicity: Not Established

Sensitization to Product: None

Synergistic Products: Not Established

12. ECOLOGICAL INFORMATION

Ecotoxicity: None known **Mobility:** Not Established
Degradability: Not Established
Bioaccumulation: Not Established

13. DISPOSAL INFORMATION

This material must be disposed in compliance with local, state, and federal regulations. Consult a local, licensed expert.

14. TRANSPORTATION INFORMATION

U.S.DOT: NOT REGULATED ICAO/IATA:

NOT REGULATED

IMDG: NOT REGULATED MARINE

POLLUTENT: NO

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Methyl Methacrylate

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TSCA

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Methyl Methacrylate

WHMIS CLASSIFICATION: Not Regulated

16. OTHER INFORMATION

Initial: 8/22/2007

Revised: Jan. 2016

| | | | |
|------|----------|----------------|--------------|
| HMIS | HEALTH 1 | FLAMMABILITY 1 | REACTIVITY 1 |
| NFPA | HEALTH 1 | FLAMMABILITY 1 | REACTIVITY 1 |

PRECAUTIONARY LABEL INFORMATION: Irritant

Risk Phrases:

R36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM, AND SKIN

Safety Phrases:

S7- KEEP CONTAINER(S) TIGHTLY CLOSED WHEN NOT IN USE
S2/3- KEEP IN A COOL PLACE, OUT OF REACH OF CHILDREN
S15/16- KEEP AWAY FROM HEAT AND IGNITION SOURCES. NO SMOKING
S24/25- AVOID CONTACT WITH SKN AND EYES
S29- DO NOT EMPTY INTO DRAINS OR WATERWAYS
S35- DISPOSE OF CONTAINER IN A SAFE WAY
S37/39- WEAR SUITABLE GLOVES AND EYE PROTECTION
S45- IF SEEKING MEDICAL ATTENTION SHOW PHYSICAN LABEL OR SDS
S51- USE ONLY IN WELL VENTILATED AREAS

NON-WARRANTY: Information contained herein is based on tests we believe to be reliable and accurate. It is offered in good faith for the benefit of the consumer. Adhesive Systems shall not be liable for any injury, loss, or damage in the use of its chemical products since the conditions of use are beyond our control. In every case we urge and recommend the user conduct tests to determine to their own satisfaction that the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. Statements concerning the possible use of our products are not intended as recommendations to use our products in the infringement of any patent. Because of changing reporting requirements and other variables it is impossible to guarantee the accuracy of the information contained in this document. It is the responsibility of the user to determine proper personal protection based on the actual condition of use and to comply with all Federal, State, and Local laws and regulations.

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